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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,905	03/21/2001	Petter Ericson	3782-0118P	1164
2292	7590	04/27/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			MOUTTET, BLAISE L	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 04/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/812,905	Applicant(s) ERICSON ET AL.	
	Examiner Blaise L Mouttet	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 22 September 2003.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-6 and 8-39 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) 30 and 33 is/are allowed.

6) ☒ Claim(s) 1-6, 8-27 and 34-37 is/are rejected.

7) ☒ Claim(s) 28, 29, 31, 32, 38 and 39 is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 27 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

 a) ☒ All b) ☐ Some * c) ☐ None of:

 1. ☒ Certified copies of the priority documents have been received.

 2. ☐ Certified copies of the priority documents have been received in Application No. _____.

 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____.
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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on June 12, 2003 and September 9, 2003 have been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 8-10, 12-14, 16-18, 20, 22-25, 27 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada US 5,927,872 in view of Sekendur US 5,852,434.

Yamada discloses, regarding claims 1, 20, 22-25 and 27, a handheld printer/scanner (figure 3) for printing graphical information on a surface comprising:

an inkjet print head (28) for printing indicia on the surface by ejecting ink through nozzles (column 5, lines 10-20);

an image sensor (30) for recording an image of the surface, wherein the recorded image contains a position coding pattern (62) that identifies a position on the surface (column 3, lines 32-39, column 5, lines 61-67, figure 5); and

a processor (76) for converting the recorded image into a recorded position (column 7, lines 58-67),

wherein the print head (28) prints indicia on the surface based on a comparison of the recorded position with graphical information to be printed (column 7, lines 58- column 8, line 8, figure 5).

Regarding claim 2, see column 4, lines 25-29 where the graphic information is specified as textual or non-textual.

Regarding claims 3 and 8, see column 7, lines 1-15 and 33-34 that describe the memory (78) for storing a plurality of graphic positions to be printed on the media.

Regarding claim 4, the computer system (12) receives the graphic information from the user and converts it to the plurality of graphic positions transferred to the processor (76) and memory (78) (column 7, lines 17-32).

Regarding claims 5 and 6, see column 3, lines 32-39 and column 7, lines 33-54.

Regarding claims 9, 23 and 24, see column 9, lines 39-63.

Regarding claims 14, 16 and 27, see figure 3.

Regarding claims 17 and 18, see column 5, lines 11-20.

Regarding the method of claim 22, see column 9, lines 39-63 and figure 8 wherein steps 110 and 120 represent the accessing step, step 140 is the recording step and step 150 is the printing step.

Yamada discloses that the printer/scanner apparatus is embodied in a computer mouse (figure 1) that employs a navigation process which may use graph paper lines in the determination of the recorded position (column 5, lines 40-58).


Yamada fails to disclose, regarding claims 1, 10, 12, 13, 20, 22-25 and 27, that the recorded position is an absolute position defined by two coordinate values based on position codes to determine a speed and direction of the printhead in relation to the print surface.

Yamada fails to disclose, regarding claims 34-37, an absolute position coded by a group of symbols wherein each of the symbols is included in several groups of symbols to code several different absolute positions and a position coding pattern having a smallest information entity of at least one symbol.

Sekendur discloses utilizing an absolute recorded position to define plural coordinates values based on position codes to determine the speed and direction of a pen/scanner combination in relation to a print surface (column 3, lines 16-32).

Sekendur discloses that the absolute position is coded by a group of symbols wherein each of the symbols is included in several groups of symbols to code several different absolute positions and a position coding pattern having a smallest information entity of at least one symbol (figure 2).

Sekendur specifically cites the deficiency in a relative position navigation system for a computer mouse as used by Yamada (column 1, line 66 – column 2, line 4) and recognizes the advantages of an absolute position navigation system (column 2, lines 59-63).



It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the recorded position of Yamada to define plural coordinates to determine the speed and direction of the printing element as taught by Sekendur.

The motivation for doing so would have been to avoid tracking errors by accurately determining the position and movement of the printing element as suggested by column 2, lines 59-63 of Sekendur.

3. Claims 11, 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada US 5,927,872 in view of Sekendur US 5,852,434, as applied to claims 10, 20 and 25, and further in view of Sato et al. US 4,851,921.

Yamada in view of Sekendur fails to disclose determining whether the speed of the printhead in relation to the print surface is constant and terminating printing when the speed changes at a rate greater than a predetermined value.

Sato et al. determines in a handheld printer/scanner whether the speed of a printhead in relation to the print surface is constant and provides a warning alarm when the speed changes at a rate greater than a predetermined value (see abstract).

It would have been obvious for a person of ordinary skill in the art to perform the determination of Sato et al. in the apparatus of Yamada in view of Sekendur and halt printing when the speed changes at a rate greater than a predetermined value.

The motivation for doing so would have been to reduce errors occurring during printing and scanning due to an unstable moving speed of the printhead as taught by column 1, line 64 - column 2, line 5 of Sato et al.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada US 5,927,872 in view of Sekendur US 5,852,434, as applied to claim 1, and further in view of Montgomery et al. US 4,797,544.

Yamada in view of Sekendur fails to disclose that the angle of the main viewing direction of the image sensor is determined with respect to the printing surface based on the recorded image.

Montgomery et al. teaches determining the angle of the main viewing direction of a handheld scanner by detecting indicia on a printed surface (column 1, lines 52-56).

It would have been obvious for a person of ordinary skill in the art to determine the angle of the main viewing direction of the image sensor of Yamada in view of Sekendur as taught by Montgomery et al.

The motivation for doing so would have been to accurately detect the image recorded by the image sensor so that the position of the scanner may be accurately tracked as taught by column 1, lines 52-56 of Montgomery et al.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada US 5,927,872 in view of Sekendur US 5,852,434, as applied to claim 1, and further in view of Poole US 5,816,718.

Yamada in view of Sekendur fails to disclose that the printhead of the handheld printer is a thermal marking printhead.

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Poole discloses a hand-held printer and teaches the equivalence to one of ordinary skill in the art of inkjet and thermal printheads in hand-held printers (column 6, lines 46-50).

It would have been obvious to a person of ordinary skill in the art to utilize a thermal printhead instead of the inkjet printhead of Yamada in view of Sekendur.

The motivation for doing so would have been to avoid the need for an ink supply.

Additional Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Anderson et al. US 6,568,777 discloses a navigation system for a printhead utilizing a relative referencing system.

Allowable Subject Matter

7. Claims 30 and 33 are allowable.

Claims 28, 29, 31, 32, 38 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of the allowability of claims 28 and 29 is the inclusion therein, in combination as currently claimed, of the limitation that the printhead

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prints indicia on the surface based on the comparison of the absolute recorded position with the graphical information to be printed wherein the processor converts the recorded image into the recorded absolute position by identifying a number of symbols in the recorded image and associating said symbols with one of a plurality of code windows on the surface. This limitation is found in claims 28 and 29 and is neither disclosed nor taught by the prior art of record, alone or in combination.

The primary reason for the indication of the allowability of claim 30 is the inclusion therein, in combination as currently claimed, of the limitation that the printhead prints indicia on the surface based on a comparison of the recorded position with the graphical information to be printed wherein the position-coding pattern is based on a cyclic number series which has a characteristic that the position in the number series of each number sequence of a predetermined length is determined unambiguously and which is arranged a plurality of times on the surface with different rotations so that adjacent cyclic number series are displaced relative to each other by predetermined displacements. This limitation is found in claim 30 and is neither disclosed nor taught by the prior art of record, alone or in combination.

The primary reason for the indication of the allowability of claims 31 and 32 is the inclusion therein, in combination as currently claimed, of the limitation of printing indicia on the surface based on a comparison of the recorded position with the graphical information to be printed wherein deriving the absolute position comprises identifying a number of symbols in the recorded image and associating said symbols with one of a

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plurality of code windows on the surface. This limitation is found in claims 31 and 32 and is neither disclosed nor taught by the prior art of record, alone or in combination.

The primary reason for the indication of the allowability of claim 33 is the inclusion therein, in combination as currently claimed, of the limitation of printing indicia on the surface based on a comparison of the derived absolute position with the graphical information to be printed wherein the position-coding pattern is based on a cyclic number series which has a characteristic that the position in the number series of each number sequence of a predetermined length is determined unambiguously and which is arranged a plurality of times on the surface with different rotations so that adjacent cyclic number series are displaced relative to each other by predetermined displacements. This limitation is found in claim 33 and is neither disclosed nor taught by the prior art of record, alone or in combination.

The primary reason for the indication of the allowability of claims 38 and 39 is the inclusion therein, in combination as currently claimed, of the limitation that the printhead prints based on the determined absolute location wherein the processor identifies a number of symbols in the position-coding pattern read by the sensor and associates said symbols with one of a plurality of code windows on the surface. This limitation is found in claims 38 and 39 and is neither disclosed nor taught by the prior art of record, alone or in combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

8. Applicant's arguments and amendments filed June 12, 2003 and September 8, 2003 have been fully considered but are not persuasive.

The applicant has argued that there is insufficient motivation for the proposed combination of Yamada '872 and Sekendur '434 as in the applied rejections and that the proposed modification would change the principle of operation of the Yamada reference.

The examiner notes that while Yamada teaches utilizing primarily the printed portions as positional references other referencing schemes are contemplated so clearly other referencing schemes would not change the principle of operation of Yamada (see column 3, lines 32-39 of Yamada). Sekendur teaches such an improved referencing scheme in which coded positional references provide not just relative positional information but absolute positional information in the form of encoded X and Y coordinates (see column 2, lines 59-63, column 3, lines 7-10 of Sekendur). As taught by Sekendur this greatly improves the precision of the positional information obtained. Sekendur even refers to the deficiencies of a relative positional referencing such as Yamada's (see column 1, line 66 - column 2, line 16 of Sekendur) in order to point out how the disclosed absolute referencing system is an improvement. Therefore the

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examiner concludes that there is an overwhelming amount of motivation in the prior art for the proposed combination and the applicant's argument's are without merit.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Blaise Mouttet who may be reached at telephone number (571) 272-2150. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, Art Unit 2853, can be reached at (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Blaise Mouttet April 16, 2004

Bm 4/16/2004


LAMSON NGUYEN
PRIMARY EXAMINER
04/16/04